Jupyter Project 5 Films Last Checkpoint: 3 hours ago (autosaved) Logout Python 3 (ipykernel) O Widgets Help Edit Not Trusted View Cell Kernel Insert ≫ @ **© +** ► Run ■ C → Code ✓ ☐ Autosave interval (min): off **1** In [1]: import pandas as pd In [2]: df = pd.read\_excel("C:/Users/Mua/Downloads/film.xlsx") Out[2]: Title Subject Year Length Actor Actress Director Popularity Awards \*Image INT STRING CAT CAT CAT BOOL STRING 0 INT CAT INT **1** 1990 111 Tie Me Up! Tie Me Down! Comedy Abril, Victoria 68 Banderas, Antonio False No NicholasCage.png 2 1991 113 Abril, Victoria False High Heels Comedy No NicholasCage.png 3 1983 104 Dead Zone, The 79 Walken, Christopher Adams, Brooke Cronenberg, David No NicholasCage.png Horror 4 1979 122 Connery, Sean Adams, Brooke Cuba Action Lester, Richard No seanConnery.png **1655** 1932 226 Shadow of the Eagle, The Action NaN NaN 19 johnWayne.png Wayne, John **1656** 1989 103 Blood & Guns Action Welles, Orson NaN NaN 43 No NicholasCage.png 1657 1988 78 Hot Money Drama Welles, Orson NaN NaN No NicholasCage.png 75 **1658** 1977 NaN 18 Comedy Tonight Comedy Williams, Robin NaN No NicholasCage.png 65 **1659** 1991 NaN NaN Robin Williams Comedy Williams, Robin No NicholasCage.png 1660 rows × 10 columns In [6]: dff = df.head(50) dff Out[6]: Subject Title Actor Actress Director Popularity Awards Year Length \*Image INT BOOL 0 INT INT STRING CAT CAT CAT CAT STRING 1 1990 111 Tie Me Up! Tie Me Down! Abril, Victoria 68 Comedy Banderas, Antonio False Νo NicholasCage.png 113 2 1991 Comedy False Abril, Victoria 68 High Heels False NicholasCage.png 3 1983 104 79 NicholasCage.png Dead Zone, The Walken, Christopher Adams, Brooke Cronenberg, David Horror 122 4 1979 Cuba Action Connery, Sean Adams, Brooke Lester, Richard seanConnery.png 5 1978 94 Days of Heaven Gere, Richard Adams, Brooke NicholasCage.png Drama Malick, Terrence 140 Moore, Roger NicholasCage.png 6 1983 Octopussy Action Adams, Maud Glen, John 7 1984 Target Eagle False Action Connors, Chuck Adams, Maud NicholasCage.png American Angels: Baptism of 8 1989 Bergen, Robert D. Drama Adams, Trudy Sebastian, Beverly 28 NicholasCage.png Blood, The 9 1985 104 Subway Lambert, Christopher 6 Drama Adjani, Isabelle Besson, Luc NicholasCage.png **10** 1990 149 Nuytten, Bruno NicholasCage.png Camille Claudel Drama False Adjani, Isabelle 32 Adolphson, **11** 1982 188 Drama False 81 Yes Fanny and Alexander Bergman, Ingmar Bergman.png Kristina Bertolucci, **12** 1982 117 Tragedy of a Ridiculous Man 17 Drama Tognazzi, Ugo Aimee, Anouk NicholasCage.png Bernardo Trintignant, Jean-**13** 1966 103 Drama Aimee, Anouk 46 A Man & a Woman Lelouch, Claude Yes NicholasCage.png Louis Trintignant, Jean-A Man & a Woman: Twenty **14** 1986 112 Drama Aimee, Anouk Lelouch, Claude 49 Nο NicholasCage.png Louis Years Later Trintignant, Jean-103 **15** 1966 Drama Un Hombre y una Mujer Aimee, Anouk Lelouch, Claude 6 NicholasCage.png Louis Official Story, The **16** 1985 112 Drama Alterio, Hector Aleandro, Norma Puenzo, Luiz 39 NicholasCage.png Lindbergh Kidnapping Case, **17** 1976 Alexander, Denise Drama Kulik, Buzz 51 Hopkins, Anthony No AnthonyHopkins.png **18** 1929 84 Blackmail Mystery Algood, Sara Hitchcock, Alfred 2 Longden, John alfredHitchcock.png **19** 1963 109 Comedy 62 Donovan's Reef Allen, Elizabeth Nο johnWayne.png Wayne, John Ford, John Coppola, Francis 20 1988 110 Tucker: The Man & His Dream Drama Allen, Joan 68 Bridges, Jeff NicholasCage.png Ford **21** 1988 101 Scrooged Comedy Murray, Bill Allen, Karen Donner, Richard 15 NicholasCage.png 116 22 1981 Raiders of the Lost Ark Action Ford, Harrison Allen, Karen Spielberg, Steven 8 NicholasCage.png Science Schwarzenegger, Alonso, Maria Glaser, Paul 23 1987 101 31 Running Man, The NicholasCage.png Fiction Michael Arnold Conchita Alonso, Maria **24** 1991 105 Action Predator 2 Glover, Danny Hopkins, Stephen 79 Nο NicholasCage.png Conchita Alonso, Maria 127 **25** 1988 Colors Drama Penn, Sean Hopper, Dennis 23 Nο NicholasCage.png Conchita Pillsbury, Sam 26 1990 97 Zandalee Drama Cage, Nicolas Anderson, Erika 80 Nο NicholasCage.png 108 **27** 1988 53 NicholasCage.png Miles from Home Drama Anderson, Kevin Anderson, Jo Sinise, Gary Νo Anderson, Melissa Ford, Glenn **28** 1980 NaN Horror Thompson, J. Lee 88 glennFord.png Happy Birthday to Me Nο Stern, Steven 88 Mystery 29 1989 Final Notice Gerard, Gil Anderson, Melody 88 No NicholasCage.png Hilliard 30 1979 110 19 paulNewman.png Quintet Drama Newman, Paul Andersson, Bibi Altman, Robert Nο 90 **31** 1960 20 Devil's Eye, The Drama Kulle, Jarl Andersson, Bibi Bergman, Ingmar No Bergman.png 32 1957 91 Wild Strawberries Drama False Andersson, Bibi 42 Yes Bergman.png Bergman, Ingmar 96 33 1956 Andersson, Bibi Seventh Seal, The Drama Sydow, Max von Bergman, Ingmar Bergman.png 34 1992 Andersson, Bibi NaN 36 No Germicide Drama Taylor, Rod NicholasCage.png 35 1955 Dreams Drama 14 False Andersson, Harriet Bergman, Ingmar Bergman.png Naked Night, The 36 1955 95 Drama False Andersson, Harriet 38 No Bergman.png Bergman, Ingmar 37 1962 91 Through a Glass Darkly Drama 64 Yes False Andersson, Harriet Bergman, Ingmar Bergman.png 38 1972 91 Cries & Whispers Josephson, Erland Andersson, Harriet Bergman, Ingmar 18 Yes Drama Bergman.png 39 1958 104 52 Barbarian & the Geisha, The Action Wayne, John Ando, Eiko Nο Huston, John johnWayne.png 40 1967 130 Casino Royale Comedy Niven, David Andress, Ursula Hughes, Ken 11 NicholasCage.png **41** 1962 NaN Dr. No Action Connery, Sean Andress, Ursula Young, Terence seanConnery.png **42** 1954 103 Elephant Walk Drama Finch, Peter Andrews, Dana NaN 11 Nο NicholasCage.png 121 43 1979 Ten Comedy Moore, Dudley Andrews, Julie Edwards, Blake 60 Nο NicholasCage.png 44 1983 118 Man Who Loved Women, The Comedy Andrews, Julie Reynolds, Burt Edwards, Blake NicholasCage.png 45 1966 190 8 Hawaii Drama Sydow, Max von Andrews, Julie Hill, George Roy NicholasCage.png 125 Newman, Paul **46** 1966 Torn Curtain Mystery Andrews, Julie Hitchcock, Alfred 35 paulNewman.png Konchalovsky, 107 47 1986 Andrews, Julie 82 Duet for One Drama Bates, Alan Nο NicholasCage.png Andrei 172 48 1965 Sound of Music, The Music Plummer, Christopher Andrews, Julie Wise, Robert 59 Yes NicholasCage.png Gonzo Presents Muppet Weird 49 1985 Comedy NaN 88 No NicholasCage.png Cleese, John Andrews, Julie In [5]: dff.describe() Out[5]: Year Length Title Subject Actor Actress Director Popularity Awards \*Image 50 50 50 50 50 47 50 50 50 count 30 37 50 38 25 34 37 3 unique 103 STRING Drama False Andrews, Julie Bergman, Ingmar No NicholasCage.png 27 freq 8 41 32 4 In [8]: dff.shape Out[8]: (50, 10) In [11]: dff["Popularity"].mean Out[11]: <bound method NDFrame.\_add\_numeric\_operations.<locals>.mean of 0 68 79 6 14 68 14 28 10 32 81 12 17 13 15 16 17 51 18 19 62 20 68 21 22 23 31 24 79 25 23 80 26 27 53 29 88 30 19 31 20 32 42 33 62 36 34 35 14 36 38 37 64 38 18 39 52 11 41 11 67 82 59 Name: Popularity, dtype: object> In [16]: dff["Popularity"].describe Out[16]: <bound method NDFrame.describe of 0 INT 68 6 32 11 81 12 17 13 46 14 49 15 6 39 16 17 51 18 2 19 62 68 20 21 15 22 23 31 24 79 25 23 26 80 27 53 28 88 88 29 30 19 31 20 32 42 33 62 34 36 35 14 36 38 37 64 38 18 39 52 40 11 41 11 42 43 60 67 44 45 35 46 47 82 48 59 88 49 Name: Popularity, dtype: object> In [18]: df.info() <class 'pandas.core.frame.DataFrame'> RangeIndex: 1660 entries, 0 to 1659 Data columns (total 10 columns): Non-Null Count Dtype # Column ----------1660 non-null object Year 1593 non-null object 1 Length 1660 non-null object Title Subject 1658 non-null object 1652 non-null object Actor 1282 non-null Actress object 1407 non-null Director object Popularity 1654 non-null object 1660 non-null Awards object \*Image 1660 non-null object dtypes: object(10) memory usage: 129.8+ KB In [19]: dff.info() <class 'pandas.core.frame.DataFrame'> RangeIndex: 50 entries, 0 to 49 Data columns (total 10 columns): # Column Non-Null Count Dtype --- ----------Year object 50 non-null object Length 48 non-null Title object 50 non-null Subject 50 non-null object 50 non-null Actor object object Actress 50 non-null 47 non-null Director object Popularity 50 non-null object 50 non-null Awards object \*Image 50 non-null object dtypes: object(10) memory usage: 4.0+ KB In [7]: dffd = dff.fillna(method="ffill") dffd Out[7]: Subject Title Director Popularity Awards Year Length Actor Actress \*Image STRING CAT CAT INT BOOL INT CAT CAT STRING 0 INT Tie Me Up! Tie Me Down! **1** 1990 111 Comedy Banderas, Antonio Abril, Victoria False 68 No NicholasCage.png 2 1991 113 Abril, Victoria 68 High Heels Comedy False False Nο NicholasCage.png Walken, Christopher 3 1983 104 Dead Zone, The Adams, Brooke Cronenberg, David 79 Horror Nο NicholasCage.png 122 4 1979 Connery, Sean Cuba Adams, Brooke Lester, Richard Action seanConnery.png 94 Days of Heaven 5 1978 14 Drama Gere, Richard Adams, Brooke Malick, Terrence NicholasCage.png 140 NicholasCage.png 6 1983 Moore, Roger 68 Octopussy Action Adams, Maud Glen, John Nο 101 Target Eagle 7 1984 Connors, Chuck Action Adams, Maud False 14 No NicholasCage.png American Angels: Baptism of 8 1989 99 Drama Bergen, Robert D. Adams, Trudy Sebastian, Beverly 28 NicholasCage.png Blood, The 9 1985 104 Subway Drama Lambert, Christopher Adjani, Isabelle NicholasCage.png Besson, Luc Camille Claudel Drama Adjani, Isabelle NicholasCage.png Nuytten, Bruno Adolphson, Bergman, Ingmar **11** 1982 188 Fanny and Alexander Drama False 81 Yes Bergman.png Kristina Bertolucci, 117 Tragedy of a Ridiculous Man **12** 1982 17 Drama Tognazzi, Ugo Aimee, Anouk NicholasCage.png Bernardo Trintignant, Jean-**13** 1966 103 Drama 46 Yes A Man & a Woman Aimee, Anouk Lelouch, Claude NicholasCage.png Louis A Man & a Woman: Twenty Trintignant, Jean-112 **14** 1986 Drama Aimee, Anouk Lelouch, Claude 49 Nο NicholasCage.png Years Later Louis Trintignant, Jean-**15** 1966 103 Un Hombre y una Mujer Drama Aimee, Anouk Lelouch, Claude 6 NicholasCage.png Louis **16** 1985 112 Official Story, The Drama Alterio, Hector Aleandro, Norma Puenzo, Luiz 39 Yes NicholasCage.png Lindbergh Kidnapping Case, **17** 1976 150 Drama Kulik, Buzz 51 Hopkins, Anthony Alexander, Denise No AnthonyHopkins.png The Mystery **18** 1929 84 alfredHitchcock.png Blackmail Longden, John Algood, Sara Hitchcock, Alfred 2 No 109 **19** 1963 62 Donovan's Reef Comedy Wayne, John Allen, Elizabeth Ford, John Nο johnWayne.png Coppola, Francis 110 Tucker: The Man & His Dream 68 20 1988 Drama Allen, Joan Bridges, Jeff Nο NicholasCage.png Ford **21** 1988 101 Allen, Karen Donner, Richard 15 Scrooged Comedy Murray, Bill NicholasCage.png 22 1981 116 Action Ford, Harrison Allen, Karen Spielberg, Steven Raiders of the Lost Ark NicholasCage.png Science Alonso, Maria Glaser, Paul Schwarzenegger, 23 1987 101 Running Man, The 31 NicholasCage.png Fiction Arnold Conchita Michael Alonso, Maria 105 **24** 1991 Action Hopkins, Stephen Predator 2 Glover, Danny 79 Nο NicholasCage.png Conchita Alonso, Maria **25** 1988 127 Colors Drama Penn, Sean Hopper, Dennis 23 No NicholasCage.png Conchita 26 1990 97 Zandalee Drama Cage, Nicolas Anderson, Erika Pillsbury, Sam 80 Nο NicholasCage.png 108 **27** 1988 Miles from Home Drama Anderson, Kevin Anderson, Jo Sinise, Gary 53 Νo NicholasCage.png Anderson, Melissa 108 Ford, Glenn **28** 1980 Horror Thompson, J. Lee 88 Happy Birthday to Me Nο glennFord.png Stern, Steven 88 Mystery 29 1989 88 No Final Notice Gerard, Gil Anderson, Melody NicholasCage.png Hilliard 30 1979 110 19 No Quintet Drama Newman, Paul Andersson, Bibi Altman, Robert paulNewman.png **31** 1960 90 20 Devil's Eye, The Drama Kulle, Jarl Andersson, Bibi Nο Bergman, Ingmar Bergman.png 32 1957 91 Wild Strawberries Drama False Andersson, Bibi Bergman, Ingmar 42 Yes Bergman.png 96 Sydow, Max von 33 1956 Seventh Seal, The Drama Andersson, Bibi Bergman, Ingmar 62 No Bergman.png 90 34 1992 Germicide Drama Taylor, Rod 36 No NicholasCage.png Andersson, Bibi Bergman, Ingmar 33 1000 oo Dieguna Drama 17 110 Dergman.png 36 1955 95 Naked Night, The Drama Andersson, Harriet 38 No Bergman.png Bergman, Ingmar 91 37 1962 Bergman, Ingmar 64 Yes Through a Glass Darkly Drama False Andersson, Harriet Bergman.png 18 Yes 38 1972 91 Cries & Whispers Drama Josephson, Erland Andersson, Harriet Bergman, Ingmar Bergman.png 39 1958 104 Barbarian & the Geisha, The Action Wayne, John Ando, Eiko Huston, John johnWayne.png 40 1967 130 Andress, Ursula Casino Royale Comedy Niven, David Hughes, Ken 11 NicholasCage.png **41** 1962 130 Dr. No Connery, Sean Andress, Ursula Action Young, Terence No seanConnery.png **42** 1954 103 Elephant Walk Drama Finch, Peter Andrews, Dana 11 NicholasCage.png Young, Terence 121 43 1979 Ten Comedy Moore, Dudley Andrews, Julie Edwards, Blake 60 NicholasCage.png 118 Man Who Loved Women, The 44 1983 Comedy Reynolds, Burt Andrews, Julie Edwards, Blake 67 NicholasCage.png **45** 1966 190 Hawaii Drama Sydow, Max von Andrews, Julie Hill, George Roy 8 NicholasCage.png 125 **46** 1966 Andrews, Julie Torn Curtain Mystery Newman, Paul Hitchcock, Alfred 35 No paulNewman.png Konchalovsky, 107 47 1986 Andrews, Julie 82 Duet for One Drama Bates, Alan NicholasCage.png Andrei 172 48 1965 Sound of Music, The NicholasCage.png Music Plummer, Christopher Andrews, Julie Wise, Robert Yes Gonzo Presents Muppet Weird 49 1985 Comedy 88 Cleese, John Andrews, Julie Wise, Robert Nο NicholasCage.png In [ ]: